

## **Summary**

It is the object of the invention to provide a method for the determination of characteristic layer parameters by means of spectral-optical measurements, that allow for precise measurements of the sample temperature even under the conditions of industrial growth processes, i.e. wobbling samples and/or fast changes between sample carrier and sample and furthermore avoids the detection of thermal radiation and reflected radiation by means of twofold phase sensitive frequency modulation by using so called chopper and lock-in amplifier respectively several pyrometer.

Therefore the wobbling and/or rotating of the sample to be measured is compensated and/or the pyrometer optical path and the optical path of the spectral-optical system are guided separately of each other and/or a separation of the radiation signal for the temperature measurement and the radiation signal for the spectral-optical measurement is implemented by blanking of the irradiated light.